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(54) **Neuritogenic peptides**

(57) The present invention relates to peptide compounds that are capable of stimulating neuronal differentiation, neurite outgrowth and survival of neural cells, and enhancing synaptic plasticity, learning and memory, methods of treating diseases and conditions of nervous system by administration of compositions comprising

said compounds. The compounds and compositions of the invention include peptide sequences that are derived from the sequence of human erythropoietin or proteins that are homologous of human erythropoietin.

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EUROPEAN SEARCH REPORT

Application Number
EP 11 16 5451

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
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| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
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| Y | | | |
| -/-- | | | |
| The present search report has been drawn up for all claims | | | |
| Place of search Munich | | Date of completion of the search 6 September 2011 | Examiner Seroz, Thierry |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p> | | | |

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EPO FORM 1503 03/82 (P04C01)



EUROPEAN SEARCH REPORT

Application Number
EP 11 16 5451

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| Y | * claims 1-20; examples 1,2; table 3 * | 3-15 | |
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| A | ----- DAME C ET AL: "THE BIOLOGY OF ERYTHROPOIETIN IN THE CENTRAL NERVOUS SYSTEM AND ITS NEUROTROPHIC AND NEUROPROTECTIVE POTENTIAL", BIOLOGY OF THE NEONATE, KARGER, BASEL, CH, vol. 79, no. 3/4, April 2001 (2001-04), pages 228-235, XP008010235, ISSN: 0006-3126 * the whole document * | 1-15 | TECHNICAL FIELDS SEARCHED (IPC) |
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| The present search report has been drawn up for all claims | | | |
| Place of search Munich | | Date of completion of the search 6 September 2011 | Examiner Seroz, Thierry |
| CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | | | |

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EPO FORM 1503 03.82 (P04C01)



Application Number

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

see additional sheet

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 2, 3(completely); 1, 4-15(partially)

Peptide derived from the human EPO having the amino acid sequence SEQ ID No 2 and medical uses thereof.

2. claims: 1, 4-15(all partially)

Peptide derived from the human EPO having the amino acid sequence SEQ ID No 4 and medical uses thereof.

3. claims: 1, 4-15(all partially)

Peptide derived from the human EPO having the amino acid sequence SEQ ID No 3 and medical uses thereof.

4. claims: 1, 4-15(all partially)

Peptide derived from the human EPO having the amino acid sequence SEQ ID No 1 and medical uses thereof.

5. claims: 1, 4-15(all partially)

Peptides derived from human thrombopoietin having the amino acid sequences SEQ ID No 5, 13, 21, 29 and medical uses thereof.

6. claims: 1, 4-15(all partially)

Peptides derived from human GM-CSF having the amino acid sequences SEQ ID No 6, 14, 22, 30 and medical uses thereof.

7. claims: 1, 4-15(all partially)

Peptides derived from human CNFT having the amino acid sequences SEQ ID No 7, 15, 23, 31 and medical uses thereof.

8. claims: 1, 4-15(all partially)

Peptides derived from human IL-6 having the amino acid sequences SEQ ID No 8, 16, 24, 32 and medical uses thereof.

9. claims: 1, 4-15(all partially)



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 11 16 5451

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

Peptides derived from human IL-3 having the amino acid sequences SEQ ID No 9, 17, 25 and medical uses thereof.

10. claims: 1, 4-15(all partially)

Peptides derived from human interferon alpha-1 having the amino acid sequences SEQ ID No 10, 18, 26 and medical uses thereof.

11. claims: 1, 4-15(all partially)

Peptides derived from human interferon beta having the amino acid sequences SEQ ID No 11, 19, 27, 33 and medical uses thereof.

12. claims: 1, 4-15(all partially)

Peptides derived from human interferon gamma having the amino acid sequences SEQ ID No 12, 20, 28, 34 and medical uses thereof.

13. claims: 1, 4-15(all partially)

Peptides derived from human cell stem factor having the amino acid sequences SEQ ID No 35, 37, 38, 40 and medical uses thereof.

14. claims: 1, 4-15(all partially)

Peptides derived from human multiple coagulation factor deficiency protein 2 having the amino acid sequences SEQ ID No 36, 39, 41 and medical uses thereof.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-09-2011

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